

## EAST Search History

| Ref # | Hits | Search Query  | DBs                    | Default Operator | Plurals | Time Stamp       |
|-------|------|---|------------------------|------------------|---------|------------------|
| S24   | 4    | S23 not S22   | US-PGPUB; USPAT        | OR               | ON      | 2006/05/04 12:40 |
| S26   | 4    | S25 not S22   | US-PGPUB; USPAT        | OR               | ON      | 2006/05/04 12:41 |
| S25   | 8    | ((five or fifth) adj (insulating or insulator or insulation or dielectric)) same (mim or metal\$1insulating or metal\$1insulator or (metal adj (insulating or insulator or insulation)) or metal\$1insulation ) | US-PGPUB; USPAT        | OR               | ON      | 2006/05/04 14:25 |
| S37   | 2    | S36 not S35   | US-PGPUB; USPAT        | OR               | ON      | 2006/05/04 15:20 |
| S39   | 41   | S38 and (dram or (dynamic adj (ram or random)) )  | US-PGPUB; USPAT        | OR               | ON      | 2006/05/04 15:26 |
| S23   | 4    | ((many) adj (insulating or insulator or insulation or dielectric)) same (mim or metal\$1insulating or metal\$1insulator or (metal adj (insulating or insulator or insulation)) or metal\$1insulation )          | US-PGPUB; USPAT        | OR               | ON      | 2006/05/04 15:27 |
| S35   | 6    | S34 and (mim or metal\$1insulating or metal\$1insulator or (metal adj (insulating or insulator or insulation)) or metal\$1insulation )  | US-PGPUB; USPAT        | OR               | ON      | 2006/05/04 15:28 |
| S40   | 2    | (composite with id) and (mim or metal\$1insulating or metal\$1insulator or (metal adj (insulating or insulator or insulation)) or metal\$1insulation )  | US-PGPUB; USPAT        | OR               | ON      | 2006/05/04 15:28 |
| S42   | 20   | ((six or sixth) adj (insulating or insulator or insulation or dielectric)) and S41  | US-PGPUB; USPAT        | OR               | ON      | 2006/05/04 15:29 |
| S22   | 6    | ((six or sixth) adj (insulating or insulator or insulation or dielectric)) same (mim or metal\$1insulating or metal\$1insulator or (metal adj (insulating or insulator or insulation)) or metal\$1insulation )  | US-PGPUB; USPAT        | OR               | ON      | 2006/05/04 15:29 |
| S44   | 14   | S42 not S43   | US-PGPUB; USPAT        | OR               | ON      | 2006/05/04 15:30 |
| S48   | 26   | damascene and (tu.in.)  | US-PGPUB; USPAT        | OR               | ON      | 2006/05/04 15:59 |
| S51   | 14   | S49 or S50  | US-PGPUB; USPAT; USOCR | OR               | ON      | 2006/05/04 16:05 |
| S54   | 14   | S51 and capacitor   | US-PGPUB; USPAT        | OR               | ON      | 2006/05/04 16:07 |
| S52   | 1    | S51 and (mim or metal\$1insulating or metal\$1insulator or (metal adj (insulating or insulator or insulation)) or metal\$1insulation ) and ("257"/\$3.cor.) or ("438"/\$3.cor.))                                | US-PGPUB; USPAT        | OR               | ON      | 2006/05/04 16:07 |
| S58   | 25   | S57 and (mim or metal\$1insulating or metal\$1insulator or (metal adj (insulating or insulator or insulation)) or metal\$1insulation )  | US-PGPUB; USPAT        | OR               | ON      | 2006/05/08 15:01 |
| S43   | 6    | ((six or sixth) adj (insulating or insulator or insulation or dielectric)) same (mim or metal\$1insulating or metal\$1insulator or (metal adj (insulating or insulator or insulation)) or metal\$1insulation )  | US-PGPUB; USPAT        | OR               | ON      | 2006/05/08 15:01 |
| S60   | 1    | ((six or sixth) adj (insulating or insulator or insulation or dielectric)) and S59  | US-PGPUB; USPAT        | OR               | ON      | 2006/05/08 15:05 |
| S62   | 34   | S61 not S59   | US-PGPUB; USPAT        | OR               | ON      | 2006/05/08 15:07 |

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|          |    |   |                            |    |    |                  |
|----------|----|---|----------------------------|----|----|------------------|
| S64      | 40 | S63 not (S61 or S59)  | US-PGPUB; USPAT            | OR | ON | 2006/05/08 15:11 |
| S61      | 35 | ((six or sixth) adj (insulating or insulator or insulation or dielectric)) and 257/296.ccls.  | US-PGPUB; USPAT            | OR | ON | 2006/05/08 15:11 |
| S65      | 0  | ((multiple) adj (ld)) and 257/296.ccls.   | US-PGPUB; USPAT            | OR | ON | 2006/05/08 15:15 |
| S66      | 11 | ((multiple) adj (ld))   | US-PGPUB; USPAT            | OR | ON | 2006/05/08 16:19 |
| S70      | 4  | S69 not S68   | US-PGPUB; USPAT            | OR | ON | 2006/05/08 16:21 |
| S68      | 5  | S67 and (mim or metal\$1insulating or metal\$1insulator or (metal adj (insulating or insulator or insulation)) or metal\$1insulation )  | US-PGPUB; USPAT            | OR | ON | 2006/05/08 16:34 |
| S77      | 23 | tu.in. and (mim or metal\$1insulating or metal\$1insulator or (metal adj (insulating or insulator or insulation)) or metal\$1insulation )   | US-PGPUB; USPAT            | OR | ON | 2006/05/08 16:35 |
| S78      | 17 | S77 and capacitor   | US-PGPUB; USPAT            | OR | ON | 2006/05/08 16:35 |
| S69      | 5  | S67 and (damascene)   | US-PGPUB; USPAT            | OR | ON | 2006/05/08 16:53 |
| S86      | 8  | ((multiple or multi) adj (level or layer) ) with damascene with capacitor)  | US-PGPUB; USPAT            | OR | ON | 2006/05/10 18:17 |
| S91      | 16 | S90 and capacitor   | US-PGPUB; USPAT            | OR | ON | 2006/05/10 18:21 |
| S89      | 17 | S88 and (trench or groove)  | US-PGPUB; USPAT            | OR | ON | 2006/05/10 18:24 |
| S93      | 5  | ((multiple or multi) adj (level or layer) ) with (mim or metal\$1insulating or metal\$1insulator or (metal adj (insulating or insulator or insulation)) or metal\$1insulation ) with capacitor) | EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/05/10 18:24 |
| S85      | 7  | deep with damascene with capacitor  | US-PGPUB; USPAT            | OR | ON | 2006/05/10 18:29 |
| S97      | 5  | S96 not S95   | US-PGPUB; USPAT            | OR | ON | 2006/05/10 18:34 |
| S96      | 26 | S94 and ( (damascene) with capacitor)   | US-PGPUB; USPAT            | OR | ON | 2006/05/10 19:00 |
| S95      | 44 | S94 and ( (mim or metal\$1insulating or metal\$1insulator or (metal adj (insulating or insulator or insulation)) or metal\$1insulation ) with capacitor)  | US-PGPUB; USPAT            | OR | ON | 2006/05/10 19:03 |
| S10<br>3 | 1  | ((several) adj (interlayer or (inter adj layer) or inter\$1layer or ld)) with capacitor)  | US-PGPUB; USPAT            | OR | ON | 2006/05/11 12:05 |
| S10<br>5 | 0  | ((several) adj (interlayer or (inter adj layer) or inter\$1layer or ld)) with (etch or etched or etching)) and S104   | US-PGPUB; USPAT            | OR | ON | 2006/05/11 12:06 |
| S10<br>6 | 0  | ((multi or multiple) adj (interlayer or (inter adj layer) or inter\$1layer or ld)) with (etch or etched or etching)) and S104   | US-PGPUB; USPAT            | OR | ON | 2006/05/11 12:06 |
| S11<br>1 | 0  | S110 and (S104 or S107)   | US-PGPUB; USPAT            | OR | ON | 2006/05/11 12:07 |
| S10<br>2 | 0  | S101 and ( (mim or metal\$1insulating or metal\$1insulator or (metal adj (insulating or insulator or insulation)) or metal\$1insulation or damascene ) with capacitor)                          | US-PGPUB; USPAT            | OR | ON | 2006/05/11 12:07 |
| S11<br>8 | 0  | ((several) adj (interlayer or (inter adj layer) or inter\$1layer or ld)) with (etch or etched or etching)) and S115   | US-PGPUB; USPAT            | OR | ON | 2006/05/11 12:13 |

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|          |    |  |                    |    |    |                  |
|----------|----|--|--------------------|----|----|------------------|
| S10<br>9 | 0  | ((several) adj (interlayer or (inter adj layer) or inter\$1layer or \$ld)) with (etch or etched or etching)) and S107                                | US-PGPUB;<br>USPAT | OR | ON | 2006/05/11 12:13 |
| S11<br>9 | 0  | ((multi or multiple) adj (interlayer or (inter adj layer) or inter\$1layer or \$ld)) with (etch or etched or etching)) and S115                      | US-PGPUB;<br>USPAT | OR | ON | 2006/05/11 12:14 |
| S10<br>8 | 0  | ((multi or multiple) adj (interlayer or (inter adj layer) or inter\$1layer or \$ld)) with (etch or etched or etching)) and S107                      | US-PGPUB;<br>USPAT | OR | ON | 2006/05/11 12:14 |
| S53      | 1  | S51 and (mim or metal\$1insulating or metal\$1insulator or (metal adj (insulating or insulator or insulation)) or metal\$1insulation )               | US-PGPUB;<br>USPAT | OR | ON | 2006/05/11 12:17 |
| S12<br>3 | 12 | S122 and (mim or metal\$1insulating or metal\$1insulator or (metal adj (insulating or insulator or insulation)) or metal\$1insulation or damascene ) | US-PGPUB;<br>USPAT | OR | ON | 2006/05/11 15:12 |
| S14<br>8 | 30 | S147 not S146  | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 12:59 |
| S14<br>6 | 40 | ( diffusion with (barrier adj layer) with polysilicon with hole)   | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 12:59 |
| S15<br>4 | 12 | ( diffusion with (barrier) with polysilicon with (tungsten adj plug))  | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 13:23 |
| S15<br>6 | 7  | S155 not capacitor   | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 13:24 |
| S15<br>9 | 8  | S158 not S156  | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 13:25 |
| S15<br>8 | 10 | S157 not capacitor   | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 13:25 |
| S16<br>3 | 31 | S162 and damascene   | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 18:03 |
| S15<br>7 | 42 | ( diffusion with (barrier) with (polysilicon adj contact))   | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 18:03 |
| S16<br>7 | 16 | S166 not capacitor   | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 18:44 |
| S17<br>7 | 21 | S176 and (mim adj capacitor)   | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 19:28 |
| S19<br>6 | 22 | ( diffusion with (ferroelectric) with (barrier near3 ((upper or top) adj electrode) ))   | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 20:03 |
| S19<br>5 | 1  | ( diffusion with (ferroelectric) with (barrier near ((upper or top) adj electrode) ))  | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 20:03 |
| S20<br>0 | 37 | (( composite adj electrode) with barrier not schottky)   | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 20:06 |
| S19<br>9 | 6  | ( composite adj (upper or top) adj electrode)  | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 20:06 |
| S20<br>2 | 1  | ( diffusion with (ferroelectric) with (diffusion near ((upper or top) adj electrode) ))  | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 20:14 |
| S19<br>7 | 22 | ( diffusion with (ferroelectric) with (barrier near3 ((upper or top) adj electrode) ))   | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 20:14 |
| S20<br>3 | 1  | ( (ferroelectric) with (diffusion near ((upper or top) adj electrode) ))   | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 20:14 |
| S20<br>4 | 28 | ( (capacitor) with (diffusion near ((upper or top) adj electrode) ))   | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 20:35 |
| S20<br>6 | 3  | ( (barrier adj over adj ((upper or top) adj electrode) ))  | US-PGPUB;<br>USPAT | OR | ON | 2006/05/19 20:35 |

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|          |    |   |                              |    |    |                  |
|----------|----|---|------------------------------|----|----|------------------|
| S20<br>5 | 24 | S204 and (("257"/\$3.cor.) or ("438"/\$3.cor.))   | US-PGPUB;<br>USPAT;<br>USOCR | OR | ON | 2006/05/19 20:36 |
| S20<br>1 | 1  | S200 and ferroelectric  | US-PGPUB;<br>USPAT           | OR | ON | 2006/05/19 20:36 |
| S19<br>8 | 19 | S197 and (@ad<"20031022" or @rlad<"20031022")   | US-PGPUB;<br>USPAT           | OR | ON | 2006/05/19 20:36 |
| S21<br>2 | 0  | (( barrier adj layer adj over adj (high adj (k or dielectric or permittivity)) ) with high not gate)                            | US-PGPUB;<br>USPAT           | OR | ON | 2006/05/19 20:37 |
| S21<br>3 | 4  | (( barrier adj layer adj over adj (high adj (k or dielectric or permittivity)) ))   | US-PGPUB;<br>USPAT           | OR | ON | 2006/05/19 21:19 |
| S22<br>2 | 7  | ( (barrier near3 ((upper or top) adj electrode)) with (high adj (k or dielectric or permittivity)) not gate)                    | US-PGPUB;<br>USPAT           | OR | ON | 2006/05/19 21:33 |
| S22<br>3 | 0  | ( barrier with ((upper or top) adj electrode) with (high adj (k or dielectric or permittivity)) not (bottom or lower or gate) ) | US-PGPUB;<br>USPAT           | OR | ON | 2006/05/19 21:35 |
| S22<br>9 | 5  | S228 and (@ad<"20031022" or @rlad<"20031022") and (("257"/\$3.cor.) or ("438"/\$3.cor.))  | US-PGPUB;<br>USPAT           | OR | ON | 2006/05/19 21:59 |
| S22<br>8 | 29 | (( ((upper or top) adj electrode) adj stack ) with barrier)   | US-PGPUB;<br>USPAT           | OR | ON | 2006/05/19 22:00 |
| S23<br>0 | 1  | (( composite adj (upper or top) adj electrode) with barrier)  | US-PGPUB;<br>USPAT           | OR | ON | 2006/05/19 22:00 |
| S22<br>4 | 0  | ( barrier with ((upper or top) adj electrode) with (ferroelectric) not (bottom or lower or gate) )                              | US-PGPUB;<br>USPAT           | OR | ON | 2006/05/19 22:04 |
| S23<br>2 | 25 | ( barrier with ((upper or top) adj electrode) with (barrier) not (bottom or lower or gate) )                                    | US-PGPUB;<br>USPAT           | OR | ON | 2006/05/19 22:06 |
| S23<br>3 | 11 | S232 and (@ad<"20031022" or @rlad<"20031022") and (("257"/\$3.cor.) or ("438"/\$3.cor.))  | US-PGPUB;<br>USPAT           | OR | ON | 2006/05/19 22:07 |
| S23<br>4 | 0  | ( barrier with ((upper or top) adj electrode) with nitride not (bottom or lower or gate) )                                      | US-PGPUB;<br>USPAT           | OR | ON | 2006/05/19 22:07 |